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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/965,123	09/27/2001	LeRoy Dickson	108-010USANA0	2028

7590

06/04/2003

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EXAMINER

ASSAF, FAYEZ G

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/965,123

Applicant(s)

DICKSON ET AL.

Examiner

Fayez G. Assaf

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 56-60, 72-77 and 84-89 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 56-60, 72-77 and 84-89 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

Priority

It is noted and acknowledged that the present application in a continuation of application 09/071,512 filed may 1, 1998.

The Examiner requests an update of all related applications to their current status.

Specification

The disclosure is objected to because of the following informalities:

Some symbols, in equation 7 on page 51 and equation 8 on Page 55, are illegible, unclear or extraneous.

Appropriate correction is required.

Claim Objections

Claims 60, 75 and 88, the phrase, "the total beam-shaping factor" lacks antecedent basis.

Claims 60, 75 and 88, the phrase, "the laser beam modifying subsystem" lacks antecedent basis.

Regarding claims 60, 75 or 88, the claims recite the beam-shaping factor being greater than one so that the laser beam leaving collimating lens is expanded in one direction, or less

Art Unit: 2872

than one so that the beam leaving the collimating lens is compressed in one dimension. The Examiner notes that such a language is not descriptive of the claimed invention, because the beam is being shaped by the diffractive optical elements after it has already left the collimating lens.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

Claims 56-60, 72-77 and 84-89 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 56, 72 and 84, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

The dependent claims inherit the deficiencies of the claims from which they depend.

Regarding claims 57, 58, 73, 74, 76 and 85-87, the phrases "other type of DOE" or "other diffractive optical element" are vague and indefinite; in that, the metes and bonds of the claims cannot be positively ascertained.

Regarding claims 59 and 89, the phrase "or the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 56-59 are rejected under 35 U.S.C. 102(b) as being anticipated by Kato et al. (US 4,832,464).

Regarding claim 56, Kato discloses a laser beam producing system comprises: a laser beam source (the LD in Fig. 30), a laser diode (LD), for producing a laser beam from its junction (i.e. semiconductor line 39 to line 40 of Col. 18); a collimating lens (11a of Fig. 30) for collimating the laser beam as it is transmitted through collimating lens and through the system in a P-incident manner (line 43 to line 46 of Col. 18); a fixed spatial-frequency diffractive optical element (DOE)

Art Unit: 2872

denotable by D1 (11b of Fig. 30); a fixed spatial-frequency diffractive optical element (DOE) denotable by D2 (12b of Fig. 30); and a focusing lens (12a of Fig. 30) disposed after the second DOE D2 for focusing the output laser beam to some point in space (line 4 to line 5 of Col. 20).

Regarding claims 57-59, Kato discloses the collimating lens, each of the diffractive optical elements and the focusing lens being holographic optical elements (line 60 to line 64 of Col. 10; line 35 to line 46 of Col. 9).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 60 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al.

Kato discloses the claimed invention including creating a "good beam" spot on a focal point substantially without

Art Unit: 2872

aberration. Kato does not expressly disclose the value(s) of the beam-shaping factor(s) of the different taught embodiments.

However, it is well known that the beam emerging from a semiconductor laser junction has generally an elliptical shape cross section, which often requires correction, i.e. compression or expansion in one direction of the beam.

It would have been obvious, at the time the invention was made, to a person having ordinary skill in the art to expand the beam in one direction (i.e. $M1*M2 > 1$, for a two DOE subsystem) so as to correct for astigmatic aberration in the laser beam.

Allowable Subject Matter

Pending appropriate and acceptable corrections to the claims, claims 72-77 and 84-89 are allowable over the prior art of record for at least the reason that the prior art fails to teach or reasonably suggest the focusing lens disposed between DOE D1 and DOE D2 and adjustably translatable along its optical axis for focusing the output laser beam to a point in space as set forth in the claimed combination.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fayez G.

Art Unit: 2872

Assaf whose telephone number is (703) 306-5526. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on (703) 308-1687. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Fayez G. Assaf
Examiner
Art Unit 2872



FA
June 1, 2003